

BROWN MARSH AND COASTAL LAND LOSS: THE ROLE OF RESOURCE ECONOMICS

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Coastal erosion processes are widely documented in Louisiana, where an estimated 25-35 square miles of marsh are lost annually due primarily to hydrologic modification, nutrient /sediment starvation, and subsidence. The magnitude of this problem is manifested by an increasing body of scientific literature centered on causal agents, extent of loss, and remediation techniques. To date, the vast majority of this research has been derived from the biophysical sciences, namely geology, ecology, and engineering. Though most of these studies are predicated on economic justifications, socioeconomic research is by comparison nonexistent. This disparity became more evident during the recent "brown marsh" phenomenon, in which vast expanses of the state's coastal salt marsh began to exhibit dramatically higher rates of stress and mortality. The economic implications of brown marsh are potentially severe in Barataria-Terrebonne, where as much as 65% of the estuary's commercially vital salt marsh has been either moderately or severely impacted. Yet, scientific response to the crisis has been almost purely biophysical, with less than 2% of the emergency research funding slated for socioeconomic assessment. The lack of economic linkages to biophysical processes hinders the assessment of direct risks to the region's \$3.8 billion in market-based values and thus limits the attention the issue receives in state and federal policy. In addition, consideration of the indirect value of ecological services could significantly increase the estimated magnitude of economic risk, but contingent valuation studies of coastal Louisiana wetlands are scarce. This presentation provides tenets of market and nonmarket valuation within the context of Louisiana's brown marsh and coastal erosion crisis. Specific research examples are

provided to illustrate the future role of resource/environmental economics in attracting, allocating, and assessing our investments in coastal restoration.